



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/626,457	07/23/2003	Venkata A. Bhagavatula	SP02-165	2551
22928	7590	01/26/2005	EXAMINER	
CORNING INCORPORATED			KALIVODA, CHRISTOPHER M	
SP-TI-3-1			ART UNIT	PAPER NUMBER
CORNING, NY 14831			2883	

DATE MAILED: 01/26/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/626,457	BHAGAVATULA ET AL.	
	Examiner	Art Unit	
	Christopher M. Kalivoda	2883	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 July 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-25, 27 and 28 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-25, 27 and 28 is/are rejected.
- 7) ☒ Claim(s) 1, 3-5, 7, 8, 11, 14, 15 and 18, 27 and 28 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 7/23/2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>1/22/04 & 2/2/04</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Specification

The disclosure is objected to because of the following informalities: There is a small spelling error at least in paragraph 18, line 5. The last word should be "optical". Appropriate correction is required.

Claim Objections

Claims 1, 3-5, 7, 8, 11, 14, 15, 18, 27 and 28 are objected to because of the following informalities:

Regarding claim 1, line 4, claim 3, line 3, claim 4, line 1, claim 5, line 3, claim 7, line 2, claim 11, line 5, claim 14, line 2, claim 15, line 4, claim 18, line 2, and claim 22, line 3, these claims contain "adapted to" which does not further limit the scope of the claim.

Please see MPEP 2106, Part II, section C a copy of which is included for reference. "Language that suggests or makes optional but does not require steps to be performed or does not limit a claim to a particular structure does not limit the scope of a claim or claim limitation. The following are examples of language that may raise a question as to the limiting effect of the language in a claim:

- (A) statements of intended use or field of use,
- (B) "adapted to" or "adapted for" clauses,
- (C) "wherein" clauses, or
- (D) "whereby" clauses.

This list of examples is not intended to be exhaustive. "

Art Unit: 2883

Regarding claim 8, line 2, the second occurrence of prism is believed to be redundant. Appropriate correction is required.

Regarding claims 27 and 28, these should be renumbered to 26 and 27 respectively since there is no claim 26.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-6, 8 - 25, 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over McFarland et al., U.S. Patent 5,359,687 in view of Boudreau et al., U.S. Patent 5,880,525.

Regarding independent claims 1, 11, 15 and 20, McFarland et al. teaches an apparatus/method of passively aligning optical elements (col 9, lines 48-60) comprising one or more optical modules (Fig 1, ref sign 10 or Fig 6 or 8) each module including an optical element (Fig 3, ref sign 32) aligned (col 9, lines 50-60, especially line 53 and 54) and secured to a base (Fig 1, ref sign 20).

Regarding claim 2, the optical elements are secured to the bases at predetermined spatial and angular positions (Fig 6 or 8) since the fibers all aligned axially.

Art Unit: 2883

Regarding claims 3 and 22, the optical elements are passively aligned on the bases with a flexible gripping element (col 11, lines 66 - col 12, line 7 and Fig 1, ref sign 14) including a pair of spaced sidewalls (Fig 1, ref sign 16 and 18) defining a channel (Fig 1, ref sign 12) to receive and secure the optical element (Fig 3, ref sign 32).

Regarding claim 8, the optical element is a fiber (col 9, lines 19-25 and Fig 3, ref sign 32).

However, the reference is silent with respect to a substrate including one or more passive alignment features in predetermined locations and configured to receive and passively align one or more optical modules and the base to be received by the alignment features, each base secured to the substrate by cooperation with the passive alignment features.

Regarding independent claims 1, 11, 15 and 20, Boudreau et al. describe a substrate (Fig 11, ref sign 1) including one or more passive alignment features (abstract, lines 1-4 and Fig 11, ref sign 5) in predetermined locations and configured to receive and passively align one or more optical modules (col 1, lines 47-50 and Fig 11).

Regarding 4, 12 and 21, the bases are secured to the substrate in various locations (col 3, line 63-col 4, line 2) and thus passively aligned (abstract, lines 1-4).

Regarding claims 5, 14, 17 and 23, the passive alignment features include a flexible gripping element (col 4, lines 11-14 since the fiber may be snapped into place) having a pair of sidewalls defining a channel (Fig 11, ref sign 5 and area between where fiber is located) to receive and secure a base to the substrate.

Art Unit: 2883

Regarding claims 9, 18 and 28, the passive alignment features are standardized since they can be formed using batch processing and thus the passively aligned modules/bases would be standardized (col 2, line 66-col 3, line 5).

Regarding claim 10, there can be a plurality of alignment features (col 3, lines 63-col 4, lines 2, especially line 66).

Regarding claim 13, the features are aligned (col 3, lines 63-67).

Regarding claim 16, the receiving structure can include a groove (Fig 4).

Regarding claims 19, 24 and 25, each modular optical element/base is interchangeable (col 4, lines 11-14) and sized/shaped to cooperate with the gripping element since the fiber/module may be snapped into place.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the invention of McFarland et al. to include the substrate and passive alignment features of Boudreau et al. for the purpose of aligning the invention of McFarland in a cost effective manner (col 2, lines 66-col 3, line 5).

Regarding claim 6, McFarland et al. in view of Boudreau et al. teach the limitations of claim 1 as described above.

However, Boudreau is silent with respect to passive alignment features wherein sidewalls include upper and lower portions and the spacing between the upper portion is less than the spacing between the lower portion.

Art Unit: 2883

McFarland et al. teach passive alignment features wherein sidewalls include upper and lower portions and the spacing between the upper portion is less than the spacing between the lower portion (col 10, lines 32 and Fig 1 or 5).

Therefore, it would have been obvious to one skilled in the art at the time the invention was made to modify the passive alignment features of Boudreau et al. such that the sidewalls include upper and lower portions and the spacing between the upper portion is less than the spacing between the lower portion for the purpose of providing a firm retaining force (col 7, lines 41-46).

Claims 7 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over McFarland et al., U.S. Patent 5,359,687 in view of Yoon et al., U.S. Patent 6,454,468. Regarding claims 7 and 27, McFarland et al. teaches an apparatus/method of passively aligning optical elements (col 9, lines 48-60) comprising one or more optical modules (Fig 1, ref sign 10 or Fig 6 or 8) each module including an optical element (Fig 3, ref sign 32) aligned (col 9, lines 50-60, especially line 53 and 54) and secured to a base (Fig 1, ref sign 20).

However, the reference is silent with respect to a substrate including one or more passive alignment features in predetermined locations and configured to receive and passively align one or more optical modules and the base to be received by the alignment features, each base secured to the substrate by cooperation with the passive alignment features and the alignment features including recessed region.

Yoon et al. teach passive alignment features (Fig 13, ref sign 231) in predetermined locations and configured to receive and passively align one or more optical modules (Fig 13, ref sign 230) and a base to be received by the alignment features, each base secured to the substrate by cooperation with the passive alignment features and the alignment features including recessed region. In addition, each passive alignment feature is a recessed region (Fig 13).

Therefore, it would have been obvious to one skilled in the art at the time the invention was made to modify the invention of McFarland et al., to include the substrate with alignment features including a recessed region as taught by Yoon et al. for the purpose of seating the optical module (col 9, lines 4-7) in order to align with another optical device.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. U.S Patent 6,385,382 to Jenner et al. describes a substrate with passive alignment features (an optical bench with features mating with Fig 1, ref sign 116) and an optical module (Fig 1) with an optical element (Fig 1, ref sign 104) aligned and secured to a base (Fig 1, ref sign 110) that is received by the passive alignment features and could be used to reject at least the independent claims as claimed.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher M. Kalivoda whose telephone number is

Art Unit: 2883

(571) 272-2476. The examiner can normally be reached on Monday - Friday (8:30 - 5:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Frank G. Font can be reached on (571) 272-2415. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


cmk


Brian Healy
Primary Examiner